

I claim:

1. A supporting structure for supporting a covering sheet over a container opening defined by a container body, said container body including a container first side wall and a container second side wall both extending from a container base wall in a transversally spaced apart relationship relative to each other, said container first and second side walls respectively defining a first and a second side wall upper peripheral edge, said supporting structure comprising:
  - a generally elongated supporting bow defining a bow first end and a longitudinally opposed bow second end;
  - a bow-to-first wall attachment means for attaching said bow first end to said first container first side wall, said bow-to-first wall attachment means allowing said supporting bow to extend in a bow operational configuration wherein said bow spans substantially transversally and at least partially across said container opening; said bow-to-first wall attachment means also allowing said bow to pivot about said bow first end between a bow higher position wherein said bow second end is its raised position and a bow lowered position wherein said bow second end is in its lowermost position located substantially underneath said bow raised position;
  - a bow biasing means extending between said container body and said supporting bow for biasing said supporting bow towards said bow raised position.

2. A supporting structure as recited in claim 1 wherein said bow biasing means resiliently biases said bow second end towards said bow raised position.
3. A supporting structure as recited in claim 1 wherein said supporting bow is sized so as to extend transversally across said container opening, said bow-to-first wall attachment means allowing said bow second end to abuttingly contact said second side wall upper peripheral edge when said supporting bow is in said bow operational configuration lowered position.
4. A supporting structure as recited in claim 3 further comprising an abutment component attached to said supporting bow substantially adjacent said bow second end for abuttingly contacting said second side wall upper peripheral edge.
5. A supporting structure as recited in claim 4 wherein said abutment component has a substantially "L"-shaped configuration defining an abutment component first leg extending in a direction substantially perpendicular to said abutment component first leg and an abutment component second leg extending in a direction substantially parallel to said supporting bow.
6. A supporting structure as recited in claim 3 wherein said bow biasing means is calibrated so as to bias said bow second end generally upwardly and away from

said second side wall upper peripheral edge when said supporting bow is in said operational configuration.

7. A supporting structure as recited in claim 6 wherein said supporting bow and said bow biasing means are calibrated so as to allow said bow second end to abuttingly contact said second side wall upper peripheral edge when said supporting bow is in said operational configuration and said covering sheet is at least partially deployed over said supporting bow with the weight of said covering sheet exerting a downwardly oriented force on said bow second end against the biasing force generated by said bow biasing means, said supporting bow and said bow biasing means being also calibrated so as to allow said bow second end to be spaced away from said second side wall upper peripheral edge by said bow biasing means when said supporting bow is in said operational configuration and said downwardly oriented force is reduced by having said covering sheet at least partially retracted from said supporting bow.

8. A supporting structure as recited in claim 6 wherein said

- covering sheet has a sheet weight under the action of gravity;
- said bow biasing means being calibrated so as to space said bow second end away from said second side wall upper peripheral edge when said covering sheet is substantially retracted from said supporting bow;
- said bow biasing means being calibrated so as to allow said bow second end to abuttingly contact said second side wall upper peripheral edge when said

covering sheet is at least partially overriding said supporting bow with said sheet weight at least neutralizing the biasing force exerted by said bow biasing means.

9. A supporting structure as recited in claim 8 wherein said supporting bow has a substantially exteriorly convex configuration.

10. A supporting structure as recited in claim 1 wherein said bow biasing means is provided with a biasing force adjustment means for allowing the customization of the biasing force exerted by said bow biasing means.

11. A supporting structure as recited in claim 1 wherein

- said bow-to-first wall attachment means includes an anchoring component attachable to said container first side wall substantially adjacent said first side wall upper peripheral edge;
- said bow biasing means including a spring component mechanically coupled to both said anchoring component and said supporting bow.

12. A supporting structure as recited in claim 11 wherein said spring component includes a spring rod made out of a substantially resiliently deformable material.

13. A supporting structure as recited in claim 12 wherein said spring rod is bent about a spring rod elbow into a substantially "L"-shaped configuration defining a spring rod first leg and a spring rod second leg, said spring rod first leg being

mechanically coupled to said anchoring component and said spring rod second leg being mechanically coupled to said supporting bow.

14. A supporting structure as recited in claim 13 wherein said spring rod is configured and sized so that said spring rod first segment extends in a substantially parallel relationship relative to said container first side wall and said spring rod second segment extends in a direction leading substantially over said container opening, said spring rod second segment forming a second segment-to-opening angle between said spring rod second segment and said container opening, said second segment-to-opening angle having a value in the range of between 1 and 75 degrees when said bow second end is in said highermost configuration.

15. A supporting structure as recited in claim 13 wherein

- said supporting bow is provided with a supporting bow channel extending longitudinally thereinto from said bow first end;
- said anchoring component is provided with a spring rod receiving channel extending at least partially thereinto;
- said supporting bow channel being configured and sized for slidably receiving at least a portion of said spring rod second segment and said spring rod receiving channel being configured and sized for slidably receiving at least a portion of said spring rod first segment.

16. A supporting structure as recited in claim 15

- wherein said covering sheet defines a covering sheet first end and a covering sheet second end attachable adjacent to said container body respectively adjacent said container first and second side walls when said covering sheet is deployed over said supporting bow;
- said anchoring block further including a covering sheet attachment means for attaching said covering sheet first end.

17. A supporting structure as recited in claim 16 wherein said covering sheet attachment means includes a covering sheet attachment channel extending at least partially through said anchoring component, said covering sheet attachment channel extending in a substantially parallel relationship with said container first side wall and in a substantially perpendicular relationship with said spring rod receiving channel.

18. A supporting structure as recited in claim 15 wherein

- said covering sheet is rollable into a sheet roll when retracted from said supporting bow;
- said anchoring block further including a roll receiving means for receiving said sheet roll.

19. A supporting structure as recited in claim 18 wherein said roll receiving means includes a roll abutment rod extending from said anchoring block, said roll

abutment rod being configured and sized for cooperating in receiving said sheet roll.

20. A supporting structure as recited in claim 19 wherein said roll abutment rod defines an abutment rod first segment, an abutment rod second segment and an abutment rod third segment extending therebetween, said abutment rod first and second segments extending in a substantially parallel relationship relative to each other and in a substantially perpendicular relationship relative to said abutment rod third segment, said anchoring block also defining an abutment rod receiving channel extending at least partially therethrough for receiving at least a portion of said abutment rod first segment.

21. A supporting structure as recited in claim 20 wherein said abutment rod second segment is provided with a rod extension extending therefrom, said rod extension being made out of a resiliently deformable material.

22. A supporting structure as recited in claim 1 wherein said supporting bow is pivotable between said operational configuration and a stored configuration wherein said supporting bow is at least partially retracted from said container opening.

23. A supporting structure as recited in claim 22 wherein said supporting bow extends in a substantially proximal relationship relative to said container first side wall when in said stored configuration.

24. A supporting structure as recited in claim 23 further comprising an actuating means operatively coupled to said supporting bow for pivoting said supporting bow between said operational and stored configurations.

25. A supporting structure as recited in claim 24 wherein said actuating means includes an actuating rod mechanically coupled to said bow first end, said actuating rod extending substantially adjacent the exterior surface of said container first side wall.

26. A supporting structure as recited in claim 25 wherein said actuating rod defines an actuating rod first end and a longitudinally opposed actuating rod second end, said actuating rod first end being provided with a handle for facilitating the movement of said supporting bow between said operational and stored configurations.

27. A supporting structure as recited in claim 22 further comprising a bow locking means for locking said supporting bow in either one of said operational or stored configuration.



28. A supporting structure as recited in claim 22 comprising an actuating means operatively coupled to said supporting bow for pivoting said supporting bow between said operational and stored configurations, said actuating means including an actuating rod mechanically coupled to said bow first end, said actuating rod extending substantially adjacent the exterior surface of said container first side wall; said actuating rod defining an actuating rod first end and a longitudinally opposed actuating rod second end, said actuating rod first end being provided with a handle for facilitating the movement of said supporting bow between said operational and stored configurations; said supporting structure further comprising a bow locking means for locking said supporting bow in either one of said operational or stored configuration, said bow locking means including a locking component mounted on said container body substantially adjacent said container base wall, said locking component being configured and sized for operatively cooperating with said handle for locking said supporting bow in either one of said operational or stored configurations.

29. A supporting structure as recited in claim 28 wherein said locking component includes a generally arcuate locking plate defining an arc segment between a pair of opposed locking plate ends, said locking plate having a locking notch formed therein substantially adjacent said locking plate ends, said handle being positioned, configured and sized for releasable locking insertion into a corresponding one of said locking notches when said supporting bow is in a corresponding one of said operational or stored configurations.

30. A supporting structure as recited in claim 1 including at least two supporting rods,

each of said supporting rods defining a bow first end and a longitudinally spaced bow second end;

- a bow-to-first wall attachment means for attaching said each of said bow first ends to said first container side wall, said bow-to-first wall attachment means allowing said supporting bows to extend in a bow operational configuration wherein said bows span substantially transversally and at least partially across said container opening; said bow-to-first wall attachment means also allowing said bows to pivot about said bows first end between a bow higher position wherein said bows second ends are in their raised position and a bow lowered position wherein said bow second ends are in their lowermost position located substantially underneath said bow raised positions;

- a bow biasing means extending between said container body and said supporting bows for biasing said supporting bows towards said bow raised position;

- said supporting bow being pivotable between said operational configuration and a stored configuration wherein said supporting bows are at least partially retracted from said container opening;

- a bow connecting means for connecting said supporting bows together and allowing said supporting bows to pivot substantially in unison between said operational and stored configurations.

31. A supporting structure as recited in claim 30 wherein said bow connecting means includes a connecting pole pivotally coupled to said supporting bows intermediate said bow first and second ends; said supporting bows being in a substantially parallel relationship relative to each other and in a substantially perpendicular relationship relative to said connecting pole when said supporting bows are in said operational configuration.

32. A supporting structure as recited in claim 30 further comprising a pivotal range limiting means for limiting the pivotal range of said supporting bows as said bows pivot between said operational and stored configurations.

33. A supporting structure as recited in claim 32 wherein said bow connecting means includes a connecting pole pivotally coupled to said supporting bows intermediate said bow first and second ends; said supporting bows being in a substantially parallel relationship relative to each other and in a substantially perpendicular relationship relative to said connecting pole when said supporting bows are in said operational configuration, said connecting pole defining a pair of connecting pole side peripheral edges, said pivotal range limiting means including abutment plates extending from said connecting pole side peripheral edges, said abutment plates being positioned, configured and sized for abuttingly contacting at least one of said supporting bow when said supporting bows reach said operational and stored configurations.

34. A supporting structure as recited in claim 33 wherein said pivotal range limiting means includes a pair of abutment plates extending from said connecting pole, said abutment plates being positioned so as to be on opposite sides of a given supporting bow and adjacent opposite connecting pole peripheral edges, each of said abutment plates defining an abutment plate longitudinal abutment edge and an abutment plate transversal abutment edge for contacting a portion of said given supporting bow respectively when said supporting bow is in said stored configuration and when said supporting bow is in said operational configuration.

35. A supporting structure as recited in claim 22 including at least two pairs of supporting bows, each of said pairs being pivotable in opposite directions relative to each other between said operational and stored configurations.